

What can I do with a degree in Industrial Product Design?

Industrial Product Design.



What is Industrial Product Design?

Industrial product design is where human-centric needs are identified, and creative product solutions are delivered to add great value to the user market. Based on a critical design process embedded with strong principles of research, analysis, creativity, problem solving, science, engineering and business, product designers can use their skills to deliver product solutions for households, businesses and industries.

Power tools, parachutes, footwear, furniture, backpacks, bikes, inhalers and interfaces are all examples of the wide and varied nature of Industrial Product Design.

Product designers develop and commercialise new product ideas. With growing global environmental challenges, product designers are also at the forefront of change and innovation, providing fresh thinking and original concepts with new material sciences and sustainable manufacturing technologies.

Learn more

It is important to do some research when planning a future career. Speak with, ask questions of, and follow relevant professional bodies, organisations, companies, thought leaders and industry professionals to learn more about:

- Career opportunities, work environments and salary information
- Education and training requirements.

Examples of professional bodies

- Ngā Aho Māori Design Professionals
www.ngaaho.maori.nz
- The Designers Institute of New Zealand
www.designersinstitute.nz
- Design Association of New Zealand
www.danz.co.nz
- Manufacturing NZ
<https://manufacturingnz.org.nz>

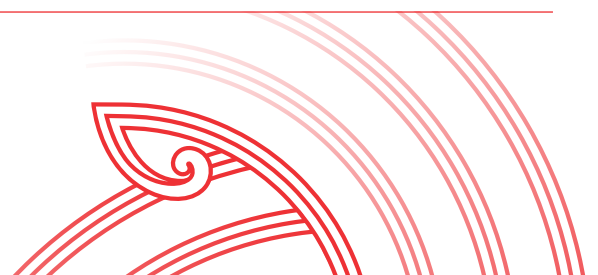
Career and study information

Some study pathways and degrees have a recommended school background, and some careers may require further study beyond a first degree or additional experience.

Gather helpful information from:

- Subject-specific content at
www.canterbury.ac.nz/study/academic-study/subjects/industrial-product-design
- Job profiles on career websites like
www.careers.govt.nz
- Job adverts/vacancy descriptions
- Industry professional bodies.

This resource is part of a set of brochures focused on subject majors; many can also be studied as minors.





What skills can graduates gain?

Through studying a degree in Industrial Product Design, graduates develop a valuable set of skills and competencies that can include:

- Product design and business skills – from idea generation, product and user need justification to product commercialisation
- User centred design, research and new product design identification
- Innovation and design thinking
- Critical thinking through rigorous prototyping, testing and evaluation of product concepts
- Creativity and problem solving
- Sketching and computer-aided design (CAD), ADOBE and other visualisation and idea communication software
- Technical competence of both material science and manufacturing methods
- Knowledge of aesthetics, ergonomics, style, function, form, and history of design philosophy
- Communication with a variety of audiences to both validate and promote product innovations
- Collaboration and teamwork.

Applied learning

Applied learning opportunities are available such as team-based projects, live industry project engagements, and the use of well-equipped and dedicated hands-on product development innovation spaces. These experiences deepen graduates' skillset, awareness of others, working knowledge, and employability.

What do employers look for?

Many employers look for generic skills such as communication, client/customer-focus, bicultural competence, cultural awareness, teamwork and initiative.

With technology, globalisation, and other drivers changing society, skills such as resilience, problem solving, and adaptability are important.

Skills that are likely to grow in importance include analytical and creative thinking, systems thinking and technological literacy.*

*World Economic Forum: www.weforum.org/agenda/2023/05/future-of-jobs-2023-skills

How can these skills be developed?

- Some skills are gained through studying
- Extra-curricular activities can help, such as getting involved in clubs, mentoring, cultural groups, part-time work or volunteering
- Be open to professional and personal development opportunities, whether it is undertaking work experience, overseas exchange, skills seminar, or joining an industry group.

Where have graduates been employed?

Graduates are positioned well for a modern career path in many areas of Aotearoa New Zealand's creative economies, and the creative industrial industries worldwide.

Industrial product design graduates have found work in:

- Product design, engineering or design engineering consultancies
- Large manufacturing companies that specialise in areas such as furniture, sports equipment, electronics, medical device design, consumer goods, vehicle design, toys and games, packaging brand and graphics
- IT companies
- Architectural businesses
- Start-up business focused on product ideas, or material science innovations
- Small companies who often need 'all-rounder' employees rather than specialist staff, where sound knowledge of user-centred design, combined with technical knowledge and business skills is beneficial.

What jobs and activities might graduates do?

Industrial Product Design studies may lead to a career in Product Design or more broadly into any industry that employs graduates with a creative and technical background – see some job examples below.

Note: This list is not exhaustive, and some jobs may require further study, training or experience. It is recommended to start with the section 'How can I gain a sense of career direction?'

Industrial product designer, design engineer – for consumer goods, medical devices, toys, automotive etc.

- Research a client's brief, an organisational or social need, or a gap in the market
- Prepare drawings, models and proposals for new products or product improvements
- Design and produce a prototype
- Test the prototype and investigate patents

Furniture designer

- Design concepts utilising sketches and digital models
- Collaborate with specialists, identify sustainable material and create prototypes

Design researcher

- Gather and analyse user behaviours and needs through research to guide design decisions
- Collaborate with teams to refine designs based on user feedback and goals

Systems and service designer

- Design user-centred experiences within complex systems
- Optimise processes, collaborate with teams, and iterate using data

Digital product designer, UX (user experience) designer

- Design user-friendly digital experiences through research, intuitive UX design, and engaging visual elements
- Work closely with diverse teams, test designs with users, and enhance products

Product manager

- Manage a specific product or line of products that are already in the market
- Coordinate the production of a finished prototype
- Oversee operations and logistics
- Handle product enquiries, complaints and orders

Marketing or sales manager

- Conduct market research into product usage and audience preferences
- Analyse performance of existing products or identify new requirements
- Communicate intelligence to designers and managers to inform product changes
- Market the products, develop new business opportunities and increase sales

Product design manager, senior designer

- Lead business initiatives on new products, and manage budgets
- Manage technical design staff
- Lead the product design process

Examples of other job titles and careers include:

- Design specialist / consultant
- Design technician
- Architectural technician
- CAD designer
- Graphic designer
- Product owner
- Research assistant
- Product development engineer
- Technical design engineer
- Technical writer
- Design researcher
- Service and system designer.

Further study options

UC offers a range of higher qualifications through the School of Product Design.

Further study may facilitate career benefits such as specialist skills, entry into a specific occupation, higher starting salary, faster progression rate, and advanced research capability.

It is important to determine which, if any, further study options align with future career aspirations.

For further UC study options visit:

www.canterbury.ac.nz/study/academic-study

How can I gain a sense of career direction?

Understanding yourself and others is important to gain a sense of direction. This grows with experience; therefore, trying new things and reflecting on an ongoing basis is important.

Career planning checklist

❑ Discover and reflect on:

- Your values, interests, strengths, abilities, and aspirations
- Your connection to whānau, people, and places
- Lifestyle preferences and location
- The skills you want to gain, use, or enhance

❑ Engage in a variety of experiences to learn about:

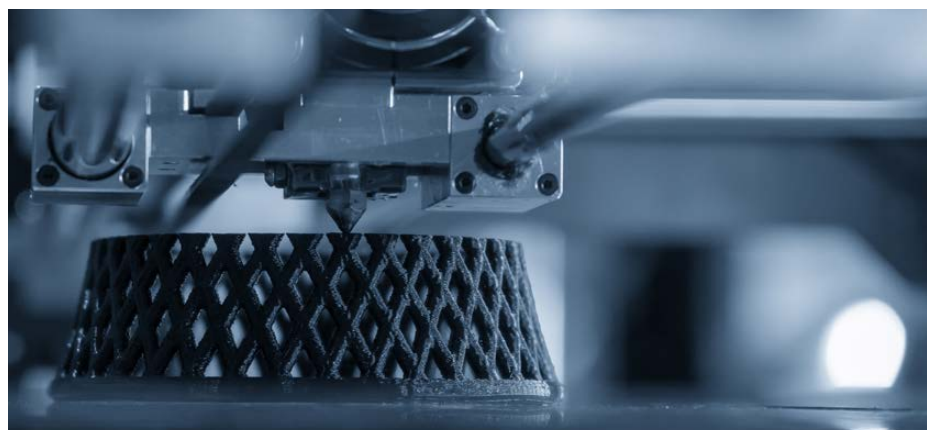
- How you want to contribute to society, the environment, and global challenges
- The tasks, responsibilities and work environments you prefer
- Your work values, priorities and interests

❑ Learn more and gather career and study information (refer to page one of this resource)

- Speak with people working in careers that interest you; check the realities of a job/career
- Gather information from various sources

❑ Identify your next steps

- Talking to a career consultant can help you to identify your next steps. Visit: www.canterbury.ac.nz/life/jobs-and-careers



What have other students and graduates done?

Explore career stories of students' university experiences and UC alumni who make a difference globally in varied ways.

Visit: www.canterbury.ac.nz/about-uc/why-uc/our-students/student-stories



Anna



William

Anna

Product Designer, Xero

Past experience: President, UC Product Design Society (ProdSoc)

Bachelor of Product Design in Industrial Product Design

What led you to study Industrial Product Design?

I loved the creative subjects at high school but balanced these with technical subjects. After leaving school I was stuck choosing between design or engineering, but then this degree came up. It was a perfect mix between engineering, arts and business, combining all of my passions into one perfect degree.

How did your studies prepare you for your current role?

The wide range of projects and diverse groups of people I worked with while studying challenged me to be constantly curious and always ask 'why'? This prepared me for my current role which requires me to think outside of the box, question the norm, and collaborate with many different stakeholders.

What has been a highlight in your career thus far?

At Xero we're constantly testing designs with our customers to see if it's solving their problems. Through user interviews I've seen firsthand how the products I design are helping all of these people around the world understand and manage their finances, allowing their small businesses to succeed and thrive.

William

Product Development Engineer, Fisher and Paykel Appliances

Past experience: Wrote PLC code for a Jig for a contractor with FPA

Bachelor of Product Design in Industrial Product Design

Why Industrial Product Design?

I joined UC wanting to make products. Having done two years of Mechatronics and finding it not to my interest, UC Careers pointed me to IPD instead. Which had most of what I wanted and allowed me to take technical electives for Engineering Papers that intrigued me such as Computer Engineering.

How did your studies prepare you for your current role?

As well as the Engineering skills of Material Science, CAD, Technical Drawings, Thermofluids, IPD taught the designing aspects of Ergonomics, Aesthetic, Brand Language and gave me practice and learning for presentation skills. It is surprising how often good presentation skills are useful in Engineering; you often need to explain things to people in meetings, which is where the presentation skills are extremely useful.

What has been a highlight in your career?

A highlight for me is when a product I worked on for a few months gets released. Or an Engineering Trial arrives from the factory, and you see a system you modelled on CAD and tested in the lab with prototypes that was mere concept months ago manifest into a real product.

Career guidance

Career services are available for future and current students, and recent graduates. To learn more, contact:

Te Rōpū Rapuara | Careers

T: +64 3 369 0303

E: careers@canterbury.ac.nz

www.canterbury.ac.nz/life/jobs-and-careers

Helpful career insights

- Speaking with employers is key to finding opportunities; not all jobs are advertised
- Developing an online presence is useful as employers can search for future employees online
- Learning about recruitment patterns and where to find opportunities is important.

Study advice

Student Advisors at UC help with questions focused on starting, planning and changing studies. To connect with Student Advisors, visit:

www.canterbury.ac.nz/study/study-support-info/study-support

Future students – contact:

The Future Students team

T: 0800 VARSITY (0800 827 748)

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www.canterbury.ac.nz/study/academic-study/engineering

